CERTIFICATE OF VERIFICATION

I, Shiro Ogasawara, c/o Ogasawara Patent Office, Daido-Seimei Esaka Bldg., 13th Floor, 1-23-101, Esakacho, Suita-shi, Osaka 564-0063 Japan, state that the attached document is a true and complete translation to the best of my knowledge of Japanese Patent Application No. 2004-166125.

Dated this 20th day of January, 2009

Signature of translator: _____

Shiro OGASAWARA

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[Document Name] SPECIFICATION 1
[Document Name] DRAWINGS 1
[Document Name] ABSTRACT 1
[General Authorization Number] 0215016

[Document Name] SCOPE OF CLAIM FOR PATENT

[Claim 1]

A communication terminal including a display function for displaying destination information at the time of outgoing communication and origination information at the time of incoming communication, the communication terminal comprising:

a communication section 1 for sending and/or receiving a phone call or an e-mail;

a personal information storage section for accumulating personal information of a counterpart with whom the sending and/or receiving of the phone call or the e-mail is performed;

a communication section 2 for receiving, from the sending and/or receiving counterpart, the personal information of the sending and/or receiving counterpart and a display attribute indicating whether or not to display the personal information;

a counterpart information obtaining section for registering the personal information and the display attribute received by the communication section 2 in the personal information storage section;

a personal information determination section for determining the display attribute registered in the personal information storage section, when a phone call or an e-mail is received by the communication section 1, and for indicating not to display the origination information in the case where the display attribute represents display unallowable; and

the personal information determination section for determining the display attribute registered in the personal information storage section, when a phone call or an e-mail is to be sent by the communication section 1, and for indicating not to display the destination information in the case where the display attribute represents display unallowable.

[Claim 2]

The communication terminal according to claim 1, further comprising,

a personal information extraction section for selecting an arbitrary piece of the personal information and a display attribute which are registered in the personal information storage section,

wherein, the selected personal information and the display attribute are sent to a sending counterpart by the communication section 2.

[Claim 3]

The communication terminal according to claim 2, wherein the communication section 2 is a communication method using a short-range wireless communication.

[Claim 4]

The communication terminal according to claim 1, wherein the sending and/or receiving counterpart information obtained by the counterpart information obtaining section and the personal information provided by the personal information provision section

are sent and/or received by the communication section 1 instead of by the communication section 2.

[Claim 5]

A display method of a communication terminal including a display function for displaying destination information at the time of outgoing communication and origination information at the time of incoming communication; the method comprising:

a communication step 1 of sending and/or receiving a phone call or an e-mail;

a personal information storage step of accumulating personal information of a counterpart with whom the sending and/or receiving of the phone call or the e-mail is performed;

a communication step 2 of receiving, from the sending and/or receiving counterpart, the personal information of the sending and/or receiving counterpart and a display attribute indicating whether or not to display the personal information;

a counterpart information obtaining step of registering the personal information and the display attribute received by the communication step 2 in the personal information storage step;

a personal information determination step of determining the display attribute registered in the personal information storage step, when a phone call or an e-mail is received by the communication step 1, and of indicating not to display the origination information in the case where the display attribute represents display unallowable; and

the personal information determination step of determining the display attribute registered in the personal information storage step, when a phone call or an e-mail is to be sent by the communication step 1, and of indicating not to display the destination information in the case where the display attribute represents display unallowable.

[Claim 6]

A display program of a communication terminal including a display function for displaying destination information at the time of outgoing communication and origination information at the time of incoming communication, the display program comprising:

a communication step 1 of sending and/or receiving a phone call or an e-mail;

a personal information storage step of accumulating personal information of a counterpart with whom the sending and/or receiving of the phone call or the e-mail is performed;

a communication step 2 of receiving, from the sending and/or receiving counterpart, the personal information of the sending and/or receiving counterpart and a display attribute indicating whether or not to display the personal information;

a counterpart information obtaining step of registering the personal information and the display attribute received by the communication step 2 in the personal information storage step;

a personal information determination step of determining the display attribute registered in the personal

information storage step, when a phone call or an e-mail is received by the communication section 1, and of indicating not to display the origination information in the case where the display attribute represents display unallowable; and

the personal information determination step of determining the display attribute registered in the personal information storage step, when a phone call or an e-mail is to be sent by the communication step 1, and of indicating not to display the destination information in the case where the display attribute represents display unallowable.

[Document Name] SPECIFICATION

[Title of the Invention] COMMUNICATION TERMINAL, COMMUNICATION TERMINAL DISPLAY METHOD, AND COMMUNICATION TERMINAL DISPLAY PROGRAM

[Technical Field]

[0001]

The present invention relates to a communication terminal equipped with a security function that causes a mobile phone not to display personal information such as a phone number and an e-mail address received from a sending and/or receiving counterpart.

[Background Art]

[0002]

Conventionally, a fixed-line phone, a mobile phone, a PHS, and the like each has a phonebook function, and when phone numbers obtained from friends or acquaintances are registered in the phonebook, it is possible to easily send an outgoing call by selecting a name registered in the phonebook instead of inputting a phone number at the time of sending the outgoing call.

Further, when an incoming call is received from a caller who is not registered in the phonebook, it is possible to easily register the caller in the phonebook since a phone number of the caller remains in the incoming call history.

However, the phone number of the caller which has been registered in the phonebook, or the phone number of the caller

which remains in the incoming call history may be disclosed to a malicious third party by an owner of a mobile phone, regardless of the intent of an owner of the phone number, which leads to a case where the owner of the phone number suffers disadvantage.

In order to solve such a problem, a communication terminal is proposed which applies a secret flag to the phonebook so as not to show information specifying a caller such as a phone number and a name, when an incoming call is received from a caller who has the secret flag set ON (for example, see patent document 1).

[Patent document 1] Japanese Laid-Open Patent Publication No.2003-249994

[Disclosure of the Invention]

[Problems to be Solved by the Invention]

[0003]

However, even if the information specifying a caller is not displayed at the time of an incoming call, phone numbers of friends and acquaintances are registered in a phonebook, and thus it is impossible to prevent registered phone numbers from being made known to a third party.

Further, the secret flag in the phonebook is set by an owner of a mobile phone, and may be set regardless of the intent of an owner of a phone number. Accordingly, a possibility still remains that the phone number is disclosed to a third party unbeknown to the owner of the phone number.

[0004]

In view of the above problems, the present invention provides a mechanism that causes a mobile phone, which has received an incoming call, not to display a phone number, which is personal information, in accordance with the intent of an owner of the phone number. In addition, a communication terminal is proposed which is capable of disabling, by implementing the present invention, a party who has received an incoming call from a caller to know a phone number of the caller, and thus, it is impossible for the party to disclose the phone number of the caller to a malicious third party.

[Solution to the Problems]

[0005]

In order to solve the conventional problems, a communication terminal of the present invention includes: a display function for displaying destination information at the time of outgoing communication and origination information at the time of incoming communication, the communication terminal comprising: a communication section 1 for sending and/or receiving a phone call or an e-mail; a personal information storage section for accumulating personal information of a counterpart with whom the sending and/or receiving of the phone call or the e-mail is performed; a communication section 2 for receiving, from the sending and/or receiving counterpart, the personal information of the sending and/or receiving counterpart and a display attribute indicating whether or not to display the personal information;

a counterpart information obtaining section for registering the personal information and the display attribute received by the communication section 2 in the personal information storage section; a personal information determination section for determining the display attribute registered in the personal information storage section, when a phone call or an e-mail is received by the communication section 1, and for indicating not to display the origination information in the case where the display attribute represents display unallowable; and the personal information determination section for determining the display attribute registered in the personal information storage section, when a phone call or an e-mail is to be sent by the communication section 1, and for indicating not to display the destination information in the case where the display attribute represents display unallowable.

[0006]

The communication terminal of the present invention further includes a personal information extraction section for selecting an arbitrary piece of the personal information and a display attribute registered in the personal information storage section. The selected personal information and the display attribute are sent to a sending counterpart by the communication section 2.

[0007]

Further, the communication section 2 of the

communication terminal of the present invention is a communication method using a short-range wireless communication.

[0008]

Still further, in the communication terminal of the present invention, the sending and/or receiving counterpart information obtained by the counterpart information obtaining section and the personal information provided by the personal information provision section are sent and/or received by the communication section 1 instead of by the communication section 2.

[0009]

Still further, a display method of a communication terminal of the present invention is directed to a display method of a communication terminal including a display function for displaying destination information at the time of outgoing communication and origination information at the time of incoming communication, and the display method includes: a communication step 1 of sending and/or receiving a phone call or an e-mail; a personal information storage step of accumulating personal information of a counterpart with whom the sending and/or receiving of the phone call or the e-mail is performed; a communication step 2 of receiving, from the sending and/or receiving counterpart, the personal information of the sending and/or receiving counterpart and a display attribute indicating whether or not to display the personal information; a counterpart information obtaining step of registering the personal information and the display attribute

received by the communication step 2 in the personal information storage step; a personal information determination step of determining the display attribute registered to the personal information storage step, when a phone call or an e-mail is received by the communication step 1, and of indicating not to display the origination information in the case where the display attribute represents display unallowable; and the personal information determination step of determining the display attribute registered in the personal information storage step, when a phone call or an e-mail is to be sent by the communication step 1, and for indicating not to display the destination information in the case where the display attribute represents display unallowable.

[0010]

Still further, a display program of a communication terminal of the present invention is directed to a display program of a communication terminal including a display function for displaying destination information at the time of outgoing communication and origination information at the time of incoming communication, and the display program includes: a communication step 1 of sending and/or receiving a phone call or an e-mail; a personal information storage step of accumulating personal information of a counterpart with whom the sending and/or receiving of the phone call or the e-mail is performed; a communication step 2 of receiving, from the sending and/or receiving counterpart, the personal information of the sending and/or receiving counterpart

and a display attribute indicating whether or not to display the personal information; a counterpart information obtaining step of registering the personal information and the display attribute received by the communication step 2 in the personal information storage step; a personal information determination step of determining the display attribute registered in the personal information storage step, when a phone call or an e-mail is received by the communication section 1, and of indicating not to display the origination information in the case where the display attribute represents display unallowable; and the personal information determination step of determining the display attribute registered in the personal information storage step, when a phone call or an e-mail is to be sent by the communication step 1, and of indicating not to display the destination information in the case where the display attribute represents display unallowable.

[Effect of the Invention]

[0011]

According to the present invention, based on a display attribute obtained from a caller, whether or not to display personal information specifying the caller, at the time of outgoing communication or at the time of incoming communication, is determined. Without an allowance of the caller, the personal information specifying the caller is not displayed. Accordingly, a phone number or an e-mail address of the caller is not disclosed to a third party without the intent of the caller, and it is possible

to prevent leakage of the personal information.

[0012]

Further, according to the present invention, a phone number and an e-mail address, or a display attribute is sent by using short-range wireless communication, that is, personal information is provided by identifying the sending and/or receiving counterpart, and accordingly, the personal information can be provided in a secured manner.

[0013]

Still further, according to the present invention, communication means such as an e-mail is used to perform provision and obtaining of a display attribute indicating whether or not to display, on a mobile phone of its user, information specifying its sending and/or receiving counterpart, and a display attribute indicating whether or not to display, on a mobile phone of the sending and/or receiving counterpart, information specifying the user. Accordingly, even when the sending and/or receiving counterpart is distanced from the user, there will not be a case where the sending and/or receiving counterpart discloses, to a third party, the phone number or the e-mail address of the user without the intent of the user. Therefore, it is possible to prevent leakage of the personal information.

[Best Mode for Carrying Out the Invention]

[0014]

(Embodiment 1)

In embodiment 1, a case will be described where, when a phone number is sent to a mobile phone of a destination party, a phone number display attribute is also sent, and display of information that specifies an origination party, including the phone number of the origination party, is controlled based on the phone number and the display attribute received by the mobile phone of the destination party.

[0015]

FIG. 2 shows a configuration of mobile phones 100 and 101 according to embodiment 1 of the present invention. The mobile phones 100 (origination side) and 101 (destination side) each includes: a communication section 1 (208) for sending and/or receiving a phone call or an e-mail; a personal information provision section 205 for externally providing personal information in a personal information storage section 204 including personal information of an owner of the mobile phone; an input section 201 for inputting personal information of an individual party provided by the personal information provision section; a personal information extraction section 202 for extracting the personal information of the individual party inputted by the input section from the personal information storage section 204; a counterpart information obtaining section 203 for externally obtaining the personal information of a sending and/or receiving counterpart; a personal information determination section 206 for determining whether or not to display personal information such

as a phone number when the personal information registered in the personal information storage section is to be displayed at the time of sending and/or receiving communication, and also for determining whether or not the personal information such as the phone number is allowed to be provided when the personal information is to be provided from the personal information provision section; a display means 207 for displaying the personal information such as the phone number in accordance with a result determined by the personal information determination section; and a communication section 2 (209) for performing transmission between the counterpart information obtaining section and the personal information provision section by using short-range wireless communication.

[0016]

Next, an operation of each of the mobile phones 100 and 101 having the above-described configuration will be described. Explanations will be given in relation to: (1) a display of personal information of a party A, when the party A, an owner of the mobile phone 100, provides information specifying its own identification such as a phone number to a party B, an owner of the mobile phone 101, and when the party B is to browse the personal information of the party A by using a phonebook browsing function of the mobile phone 101; (2) a display of the personal information of the party A on the mobile phone 101 of the party B when an outgoing call from the party A is received by the mobile phone 101 of the party B; (3) a display of the personal information of the party A when the

party B is to browse an incoming call history by using the mobile phone 101; and (4) a display of the personal information of the party A displayed on the mobile phone 101 of the party B when the party B sends an outgoing call to the party A.

[0017]

(1) An explanation will be given in relation to the display of the personal information of the party A when the party A, the owner of the mobile phone 100, provides information specifying its own identification such as the phone number to the party B, the owner of the mobile phone 101, and when the party B is to browse the personal information of the party A by using the phonebook browsing function of the mobile phone 101.

First, based on flowcharts shown in FIGS. 3 and 4, a procedure will be described, in which the party A sends, to the party B, the phone number of the party A and the display attribute for determining whether or not to display the phone number of the party A on the mobile phone of the party B, and the phone number of the party A and the display attribute are stored in the mobile phone 101 of the party B.

The phone number (of the party A) to be provided is selected from the personal information extraction section 202 of the mobile phone 100 (S301), the selected phone number (of the party A) is obtained from the personal information storage section 204 (S302), and a display attribute is inputted by the input section 201, the display attribute being set with respect

to a destination party (the party B) to whom the selected phone number is to be provided (S304). The party B, to whom the phone number and the display attribute are provided, is selected (S311), and the display attribute inputted by the input section 201 and the phone number are sent, by the personal information provision section 205, to the destination party (party B)(S312).

[0018]

In the above-given explanation, the phone number and the display attribute of the party A are provided to the destination party (party B). On the other hand, when personal information, which is other than that of the party A and is registered in the personal information storage section 204, is to be provided, such provision is determined by assessing the display attribute of the party A registered in the personal information storage section 204 (S307). When the display attribute represents "display allowable" (indicating that an owner of a phone number allows display of the personal information, such as the phone number, on a mobile phone owned by a party other than the owner), the personal information such as the phone number is provided (S312). However, when the display attribute of the phone number represents "display unallowable" (indicating that the owner of the phone number prohibits the display of the personal information, such as the phone number, on a mobile phone owned by a party other than the owner), the personal information such as the phone number is not provided (S308).

Infrared communication such as an IrDA or short-range wireless communication such as Bluetooth is used as the communication means to provide such information in this case. In the case of using the infrared communication or the short-range wireless communication, it is necessary to have a face-to-face situation with a party who is provided with a phone number, i.e., important personal information. Accordingly, it is possible to identify the party who is provided with the personal information, whereby a risk of information leakage can be lowered.

The party B receives the phone number and the display attribute of the party A by using the counterpart information obtaining section 203 of the mobile phone 101 (S401), and the received personal information, such as the phone number and the display attribute of the party A, is stored in the personal information storage section 204 (S402).

[0019]

Next, with reference to FIG. 5, a procedure will be described, in which the party B browses a phonebook on the mobile phone 101.

When the personal information extraction section 202 selects an individual party to be retrieved from the phonebook function (S501), the personal information determination section 206 determines the display attribute of the individual party selected from the personal information storage section 204 (S503). When the display attribute represents "display

unallowable", the information specifying the individual party, such as a phone number is not to be displayed on the browsing screen (S507), whereas when the display attribute represents "display allowable", the information specifying the individual party, such as the phone number, is to be displayed on the browsing screen (S504).

Further, in the case where the information specifying the individual party is an e-mail address, when the display attribute represents "display unallowable", the e-mail address is not to be displayed on the browsing screen (S508), whereas when the display attribute represents "display allowable", the e-mail address is to be displaced on the browsing screen (S506).

[0020]

(2) With reference to a flowchart shown in FIG. 6, a procedure will be described, relating to the display of the personal information of the party A on the mobile phone 101 owned by the party B when an outgoing call from the party A is received by the mobile phone 101 of the party B.

When the communication section 1 (208) of the mobile phone 101 owned by the party B receives a call from the party A (S601), personal information of a caller, the party B, is obtained from the personal information extraction section 202 (S602), and then the display attribute is determined (S603). When the display attribute represents "display unallowable", the phone number of the party A is not to be displayed on the incoming call screen (S605),

whereas when the display attribute represents "display allowable", the phone number of the party A is to be displayed on the incoming call screen (S604).

[0021]

(3) With reference to a flowchart shown in FIG. 7, a procedure will be described, relating to the display of the personal information of the party A when an incoming call history is browsed on the mobile phone 101 of the party B.

When a function for browsing the incoming call history is selected by the input section 201, the personal information extraction section 202 obtains the display attribute of the phone number of the party A, the phone number remaining in the incoming call history in the personal information storage section 204 (S702). When the display attribute of the phone number represents "display unallowable", the phone number of the party A is not to be displayed on the incoming call history screen (S705), whereas when the display attribute represents "display allowable", the phone number of the party A is displayed on the incoming call history screen (S704).

In the case of browsing an incoming e-mail history, when the display attribute represents "display unallowable", an e-mail address is not to be displayed on an incoming e-mail history screen (S705), whereas when the display attribute represents "display allowable", the e-mail address is to be displayed on the incoming e-mail history screen (S704).

[0022]

(4) With reference to a flowchart shown in FIG. 8, a procedure will be described, relating to the display of the personal information of the party A on the mobile phone 101 of the party B, when the party B sends an outgoing call to the party A.

When the input section 201 selects the party A, a destination party of the outgoing call (S801), the personal information extraction section 202 obtains the display attribute of the phone number of the party A from the personal information storage section 204, the phone number being a destination number of the outgoing call (S802). When the display attribute of the phone number represents "display unallowable", the phone number of the party A is not to be displayed on an outgoing call screen (S805), whereas when the display attribute represents "display allowable", the phone number of the party A is to be displayed on the outgoing call screen (S804).

Accordingly, when the party A, the owner of the mobile phone 100, provides the party B with its personal information such as the phone number and the e-mail address, while setting the display attribute to "display unallowable", then the phone number or the e-mail address of the party A is not to be displayed on the display screen of the mobile phone 101 owned by the party B. Therefore, the personal information of the party A such as the phone number and the e-mail address, which is retained in the mobile phone 101 of the party B, is not to be provided to a third party by the party B, without the intent of the party A.

[0023]

(Embodiment 2)

In embodiment 1, the case has been described, in which the display attribute, which indicates whether or not to display the personal information of a party on a mobile phone other than that owned by the party, is provided to its sending and/or receiving counterpart together with the personal information such as the phone number and the e-mail address, by using the short-range wireless communication such as the IrDA and the Bluetooth. It is the most secured manner to provide the personal information after identifying the sending and/or receiving counterpart. However, the sending and/or receiving counterpart is not always in a range where the short-range wireless communication is applicable to provide such personal information. In most cases, the sending and/or receiving counterpart stays in a distant area at which the short-range wireless communication is not applicable to such provision. Therefore, in the second embodiment, mainly described will be a method for providing the personal information such as the phone number and the e-mail address, and the display attribute by using a phone call or an e-mail.

[0024]

FIG. 11 shows a configuration of each of the mobile phones 100 and 101 according to embodiment 2 of the present invention. The mobile phones 100 (origination side) and 101 (destination side) each includes: the personal information

provision section 205 for externally providing the personal information in the personal information storage section 204 including personal information of the owner of the mobile phone; the input section 201 for inputting the personal information of an individual party provided by the personal information provision section; the personal information extraction section 202 for extracting the personal information of the individual party inputted by the input section from the personal information storage section 204; the counterpart information obtaining section 203 for externally obtaining the personal information of a sending and/or receiving counterpart; the personal information determination section 206 for determining whether or not to display the personal information such as a phone number when the personal information registered in the personal information storage section is to be displayed at the time of sending and/or receiving communication, and also for determining whether or not the personal information such as the phone number is allowed to be provided when the personal information is to be provided from the personal information provision section; the display means 207 for displaying the personal information such as the phone number in accordance with a result determined by the personal information determination section; and a communication section 1 (208) for performing transmission between the counterpart information obtaining section and the personal information provision section, and also performing transmission of a phone call and an e-mail.

[0025]

When the party A, the owner of the mobile phone 100, sends its own phone number, i.e., the personal information, and the display attribute to the party B, who is the owner of the mobile phone 101 and its sending and/or receiving counterpart, by means of the e-mail or the like, then the personal information and the display attribute are registered in the personal information storage section 204 of the mobile phone 101 owned by the party B, while the party B does not view the received personal information. When the phone number, i.e., the personal information, and the display attribute are stored in the personal information storage section 204, display of the same will be made in the same manner as described in embodiment 1.

In order to ensure the security of the personal information such as the phone number, it is essential to surely transmit the phone number, i.e., the personal information, and its display attribute in pairs. When the display attribute is yet to be set, the personal information should be basically treated as "display unallowable".

Further, it is possible to change, by using the communication means such as the e-mail, the display attribute indicative of the manner of treating the phone number, i.e., the personal information, provided by the personal information provision section 205.

[0026]

Further, when the above-described function is prepared as a single general-purpose program so as to be incorporated into various application programs by slightly changing such programs, it is possible to sell the function, as software to protect personal information, to developers and dealers of application software.

[Industrial Applicability]

[0027]

A communication terminal, a communication terminal display method, and a communication terminal display program according to the present invention are applicable to a mobile phone, in which a security function is used which allows a user to cause a mobile phones of its sending and/or receiving counterpart not to display personal information such as a phone number and an e-mail address of the user, whereby leakage of the personal information is prevented.

[Brief Description of the Drawings]

[0000]

[FIG. 1] A schematic image diagram according to a first embodiment;

[FIG. 2] A block diagram of a mobile phone according to the first embodiment;

[FIG. 3] A flowchart showing provision of personal information such as a phone number of an origination side according to the first embodiment;

[FIG. 4] A flowchart showing obtaining of the

personal information such as the phone number of a destination side according to the first embodiment;

[FIG. 5] A flowchart showing a phonebook browsing process according to the first embodiment;

[FIG. 6] A flowchart showing incoming call processing according to the first embodiment;

[FIG. 7] A flowchart showing an incoming call history processing according to the first embodiment;

[FIG. 8] A flowchart showing outgoing call processing according to the first embodiment;

[FIG. 9] A personal information storage table according to the first embodiment;

[FIG. 10] Conceptual diagrams showing a phonebook browsing and an incoming call history according to the first embodiment;

[FIG. 11] A block diagram of a mobile phone according to a second embodiment; and

[FIG. 12] A flowchart showing a display attribute changing process according to the first embodiment.

[Description of the Reference Characters]

[0029]

100 mobile phone (origination side)

101 mobile phone(destination side)

201 input section

202 personal information extraction section

203 counterpart information obtaining section

204 personal information storage section

205 personal information provision section

206 personal information determination section

207 display section

208 communication section 1

209 communication section 2

[Document Name] ABSTRACT

[Summary]

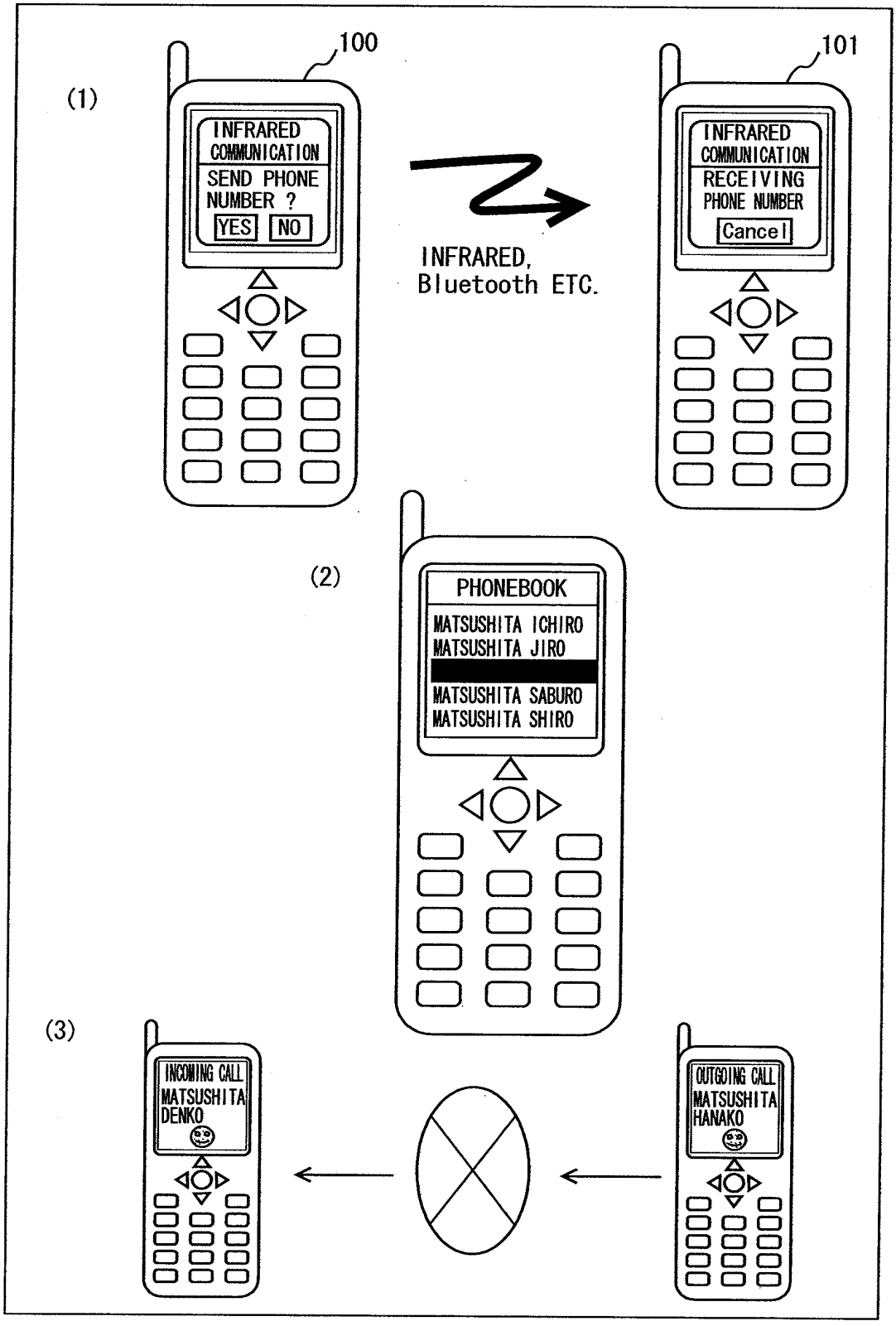
[Problem] When personal information such as a phone number or an e-mail address is made known to other parties, there is a risk of leakage of such information to a third party without the intent of an owner of the personal information.

[Solution] Included are: a communication section 1 for sending and/or receiving a phone call or an e-mail; a personal information storage section for accumulating personal information of a counterpart; a communication section 2 for receiving, from the sending and/or receiving counterpart, the personal information of the sending and/or receiving counterpart and a display attribute indicating whether or not to display the personal information; a counterpart information obtaining section for registering the personal information and the display attribute received by the communication section 2 in the personal information storage section; a personal information determination section for indicating, when a phone call or an e-mail is received by the communication section 1, not to display the origination information in the case where the display attribute represents display unallowable; and the personal information determination section for indicating, when a phone call or an e-mail is to be sent by the communication section 1, not to display the destination information in the case where the display attribute represents display unallowable.

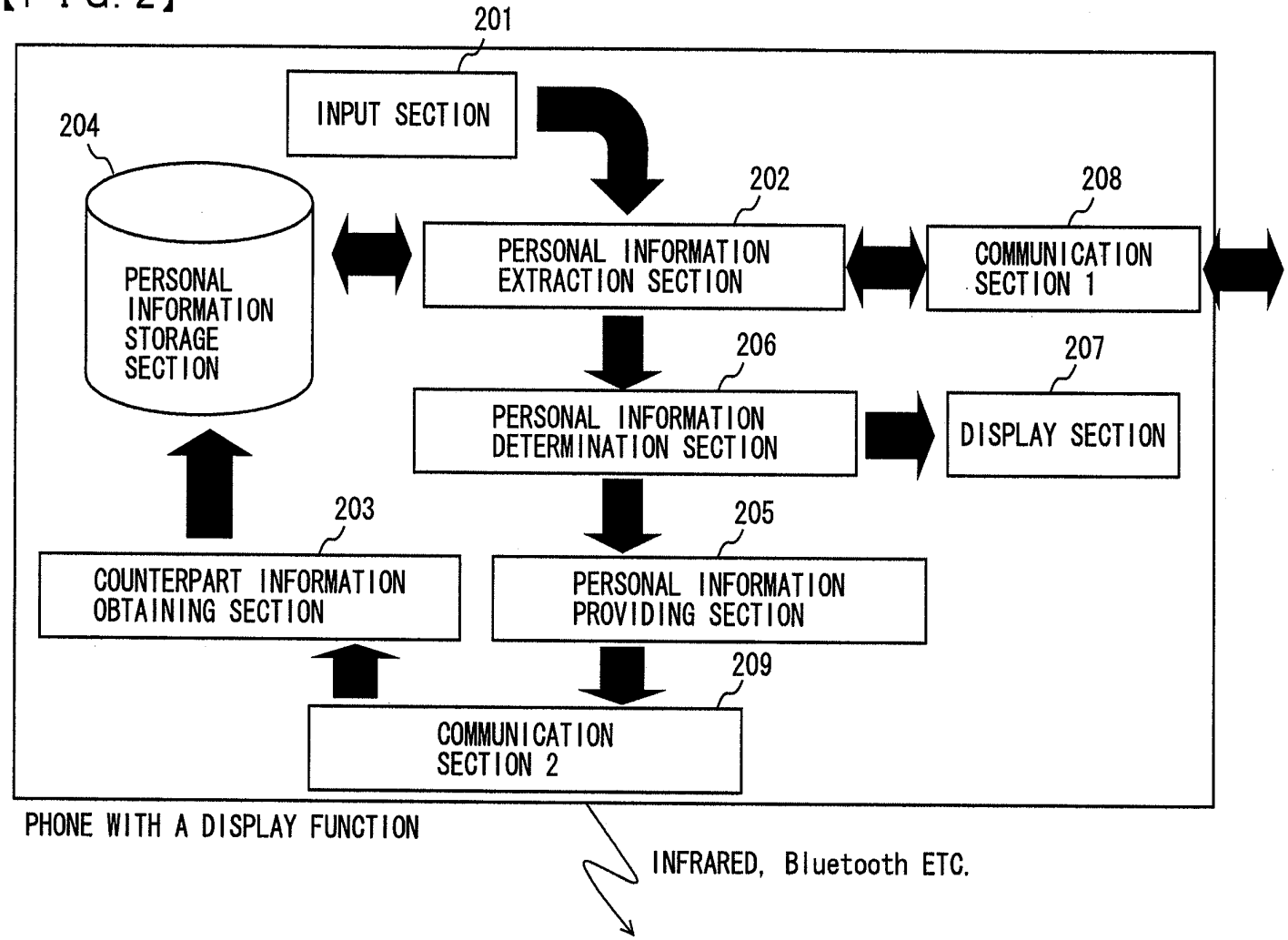
[Selected Figure] FIG. 2

[Document Name] DRAWINGS

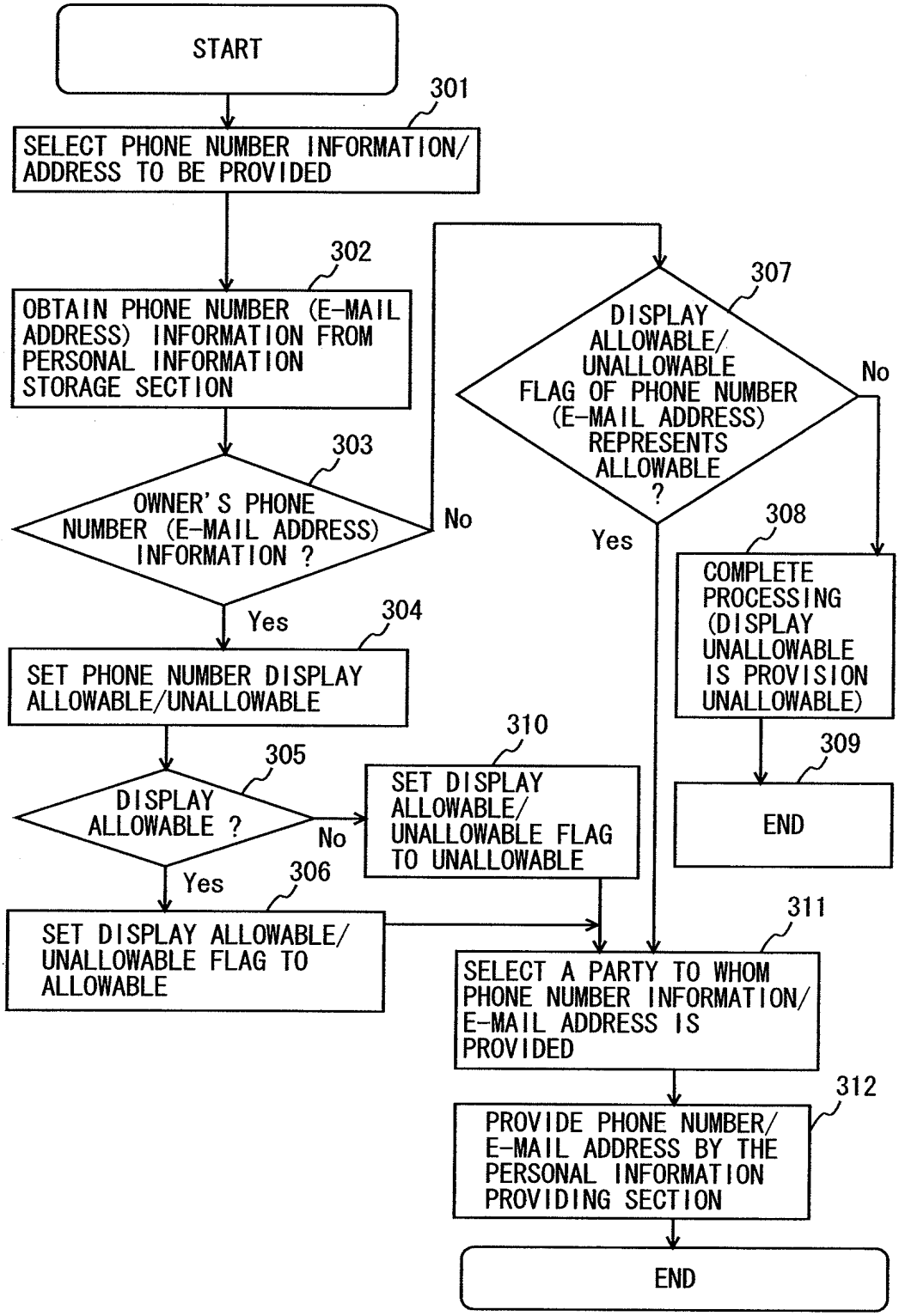
【F I G. 1】



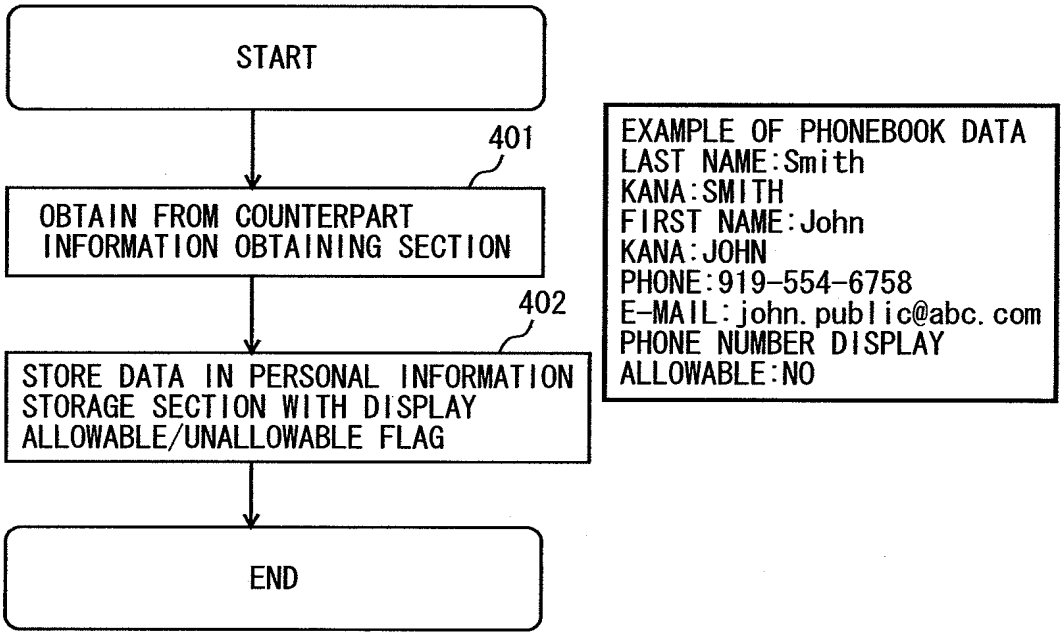
【ＦＩＧ．２】


201
INPUT SECTION
204
PERSONAL INFORMATION STORAGE SECTION
202
PERSONAL INFORMATION EXTRACTION SECTION
208
COMMUNICATION SECTION 1
206
PERSONAL INFORMATION DETERMINATION SECTION
207
DISPLAY SECTION
203
COUNTERPART INFORMATION OBTAINING SECTION
205
PERSONAL INFORMATION PROVIDING SECTION
209
COMMUNICATION SECTION 2
PHONE WITH A DISPLAY FUNCTION
INFRARED, Bluetooth ETC.

【ＦＩＧ．３】

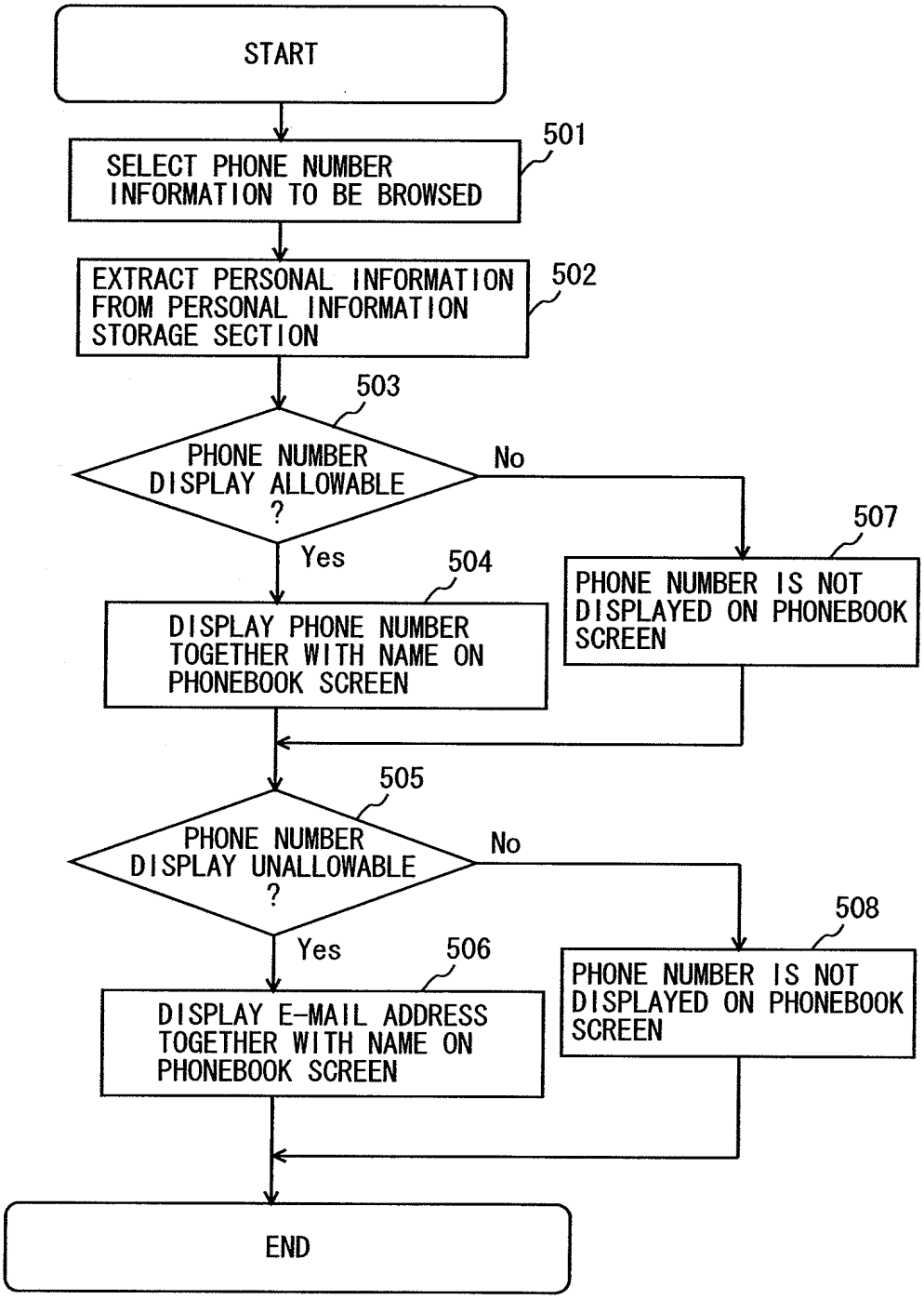

START
301
SELECT PHONE NUMBER INFORMATION/ ADDRESS TO BE PROVIDED
302
OBTAIN PHONE NUMBER (E-MAIL ADDRESS) INFORMATION FROM PERSONAL INFORMATION STORAGE SECTION
303
OWNER'S PHONE NUMBER (E-MAIL ADDRESS) INFORMATION ?
No
Yes
304
SET PHONE NUMBER DISPLAY ALLOWABLE/UNALLOWABLE
305
DISPLAY ALLOWABLE ?
No
Yes
306
SET DISPLAY ALLOWABLE/ UNALLOWABLE FLAG TO ALLOWABLE
310
SET DISPLAY ALLOWABLE/ UNALLOWABLE FLAG TO UNALLOWABLE
307
DISPLAY ALLOWABLE/ UNALLOWABLE FLAG OF PHONE NUMBER (E-MAIL ADDRESS) REPRESENTS ALLOWABLE ?
No
Yes
308
COMPLETE PROCESSING (DISPLAY UNALLOWABLE IS PROVISION UNALLOWABLE)
309
END
311
SELECT A PARTY TO WHOM PHONE NUMBER INFORMATION/ E-MAIL ADDRESS IS PROVIDED
312
PROVIDE PHONE NUMBER/ E-MAIL ADDRESS BY THE PERSONAL INFORMATION PROVIDING SECTION
END

【ＦＩＧ．４】

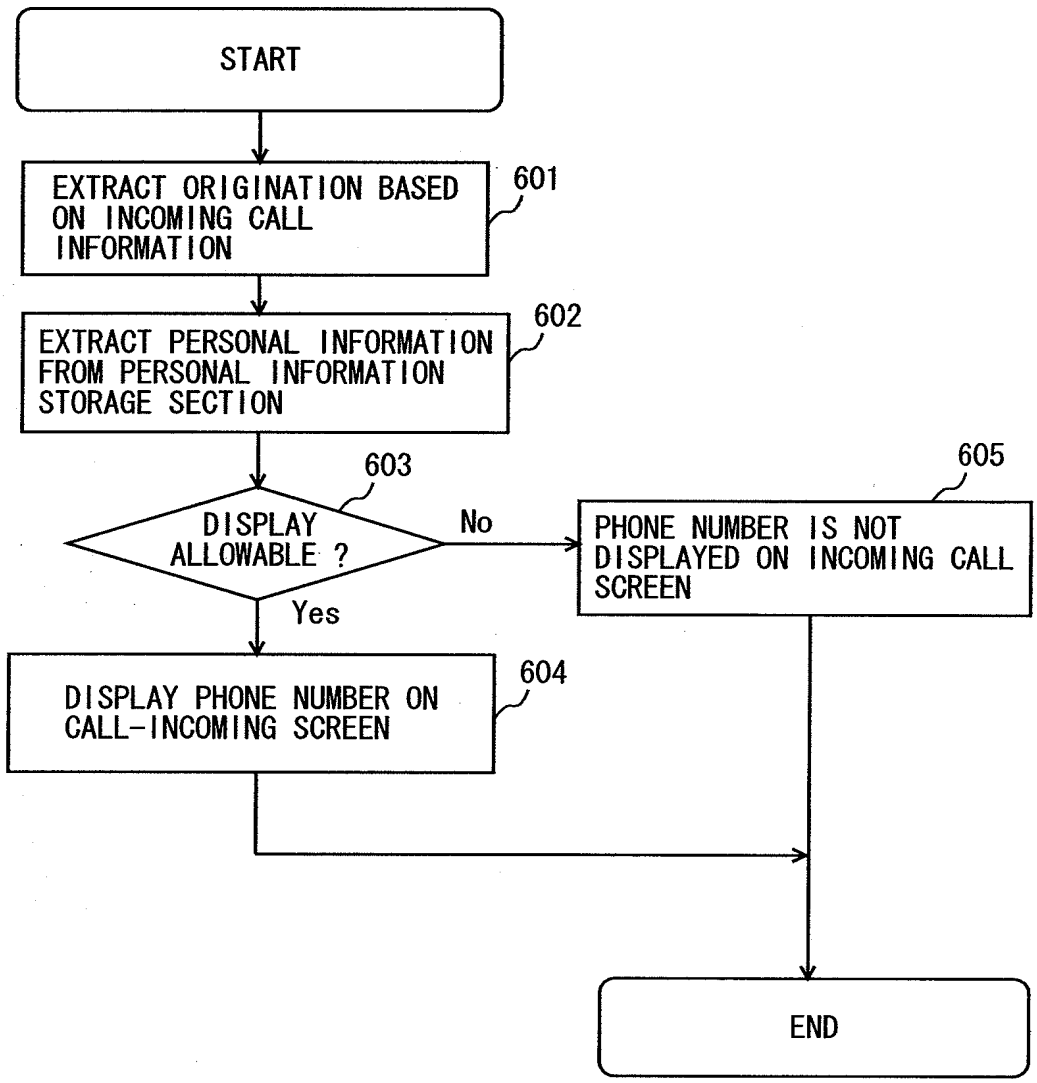



```
BEGIN:VCARD
VERSION:2.1
N:Smith;John;M.;Mr.;Esq.
TEL;WORK;VOICE;MSG:+1(919)555-1234
TEL;CWELL:+1(919)554-6758
TEL;WORK;FAX:+1(919)555-9876
EMAIL;INTERNET:john.public@abc.com
ADR;WORK;PARCEL;POSTAL;DOM:Suite 101;1 Central St.;Any Town;NC;27654
END:VCARD
```

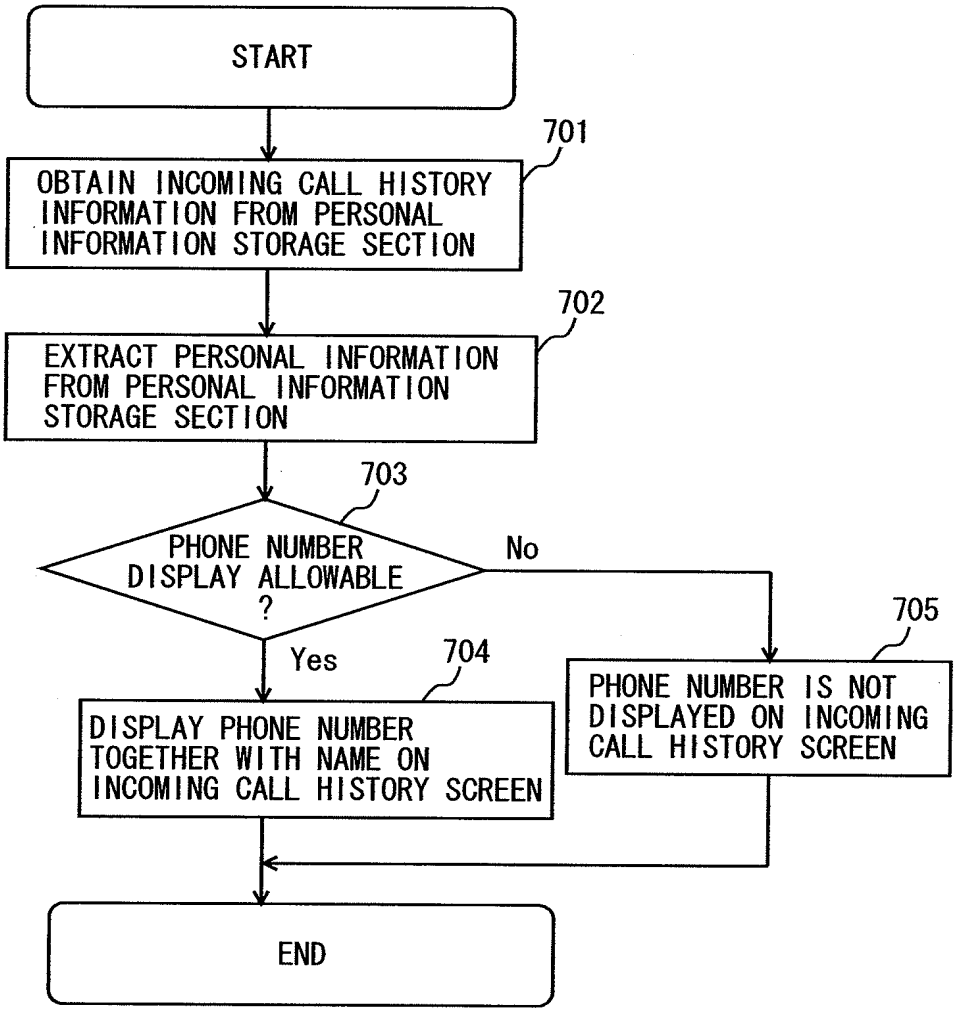
【F I G. 5】


START
SELECT PHONE NUMBER INFORMATION TO BE BROWSED
501
EXTRACT PERSONAL INFORMATION FROM PERSONAL INFORMATION STORAGE SECTION
502
503
PHONE NUMBER DISPLAY ALLOWABLE ?
No
Yes
504
DISPLAY PHONE NUMBER TOGETHER WITH NAME ON PHONEBOOK SCREEN
507
PHONE NUMBER IS NOT DISPLAYED ON PHONEBOOK SCREEN
505
PHONE NUMBER DISPLAY UNALLOWABLE ?
No
Yes
506
DISPLAY E-MAIL ADDRESS TOGETHER WITH NAME ON PHONEBOOK SCREEN
508
PHONE NUMBER IS NOT DISPLAYED ON PHONEBOOK SCREEN
END

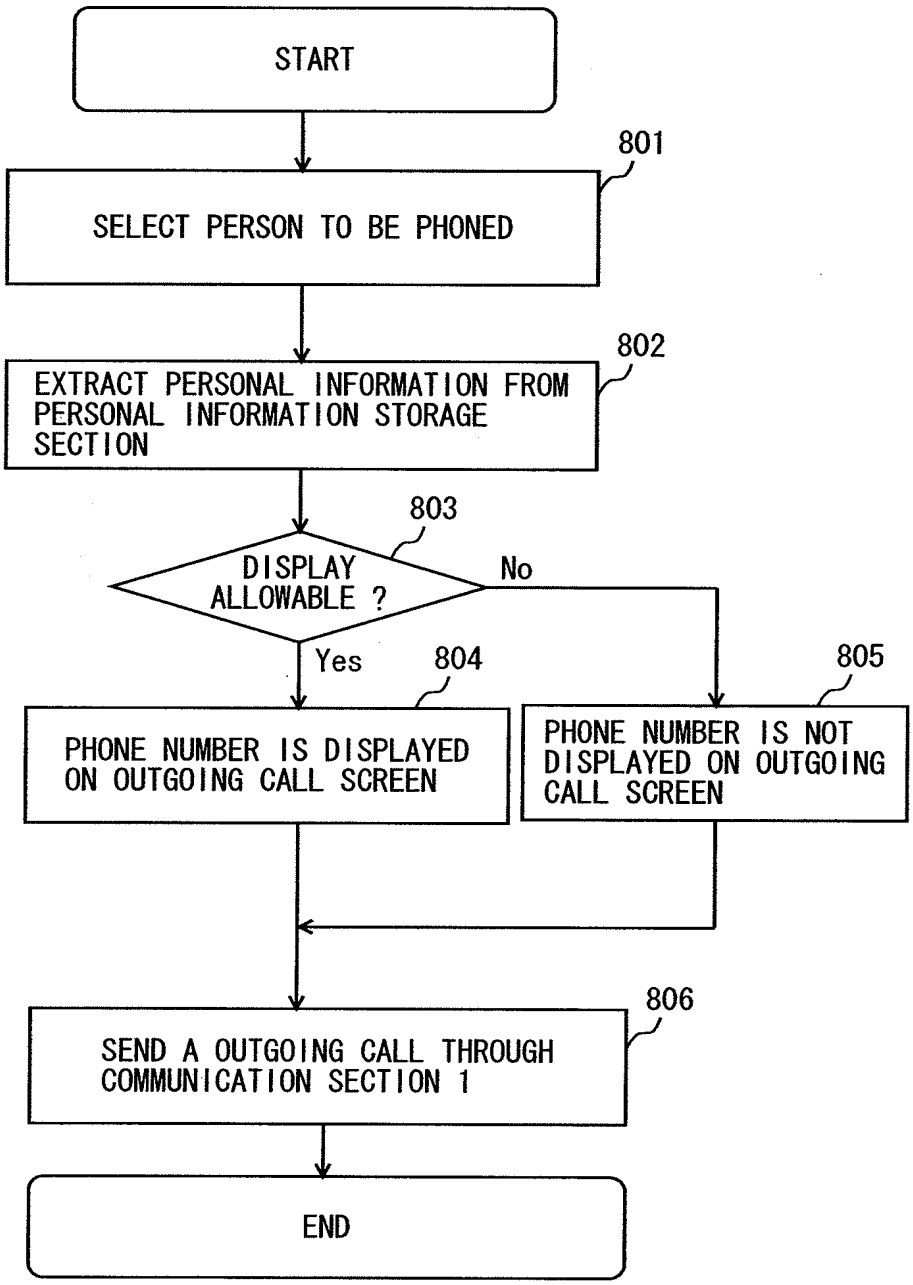
【F I G. 6】


START
EXTRACT ORIGINATION BASED ON INCOMING CALL INFORMATION
601
EXTRACT PERSONAL INFORMATION FROM PERSONAL INFORMATION STORAGE SECTION
602
603
DISPLAY ALLOWABLE ?
No
Yes
605
PHONE NUMBER IS NOT DISPLAYED ON INCOMING CALL SCREEN
DISPLAY PHONE NUMBER ON CALL-INCOMING SCREEN
604
END

【F I G. 7】


START
701
OBTAIN INCOMING CALL HISTORY INFORMATION FROM PERSONAL INFORMATION STORAGE SECTION
702
EXTRACT PERSONAL INFORMATION FROM PERSONAL INFORMATION STORAGE SECTION
703
PHONE NUMBER DISPLAY ALLOWABLE ?
No
Yes
704
DISPLAY PHONE NUMBER TOGETHER WITH NAME ON INCOMING CALL HISTORY SCREEN
705
PHONE NUMBER IS NOT DISPLAYED ON INCOMING CALL HISTORY SCREEN
END

【F I G. 8】

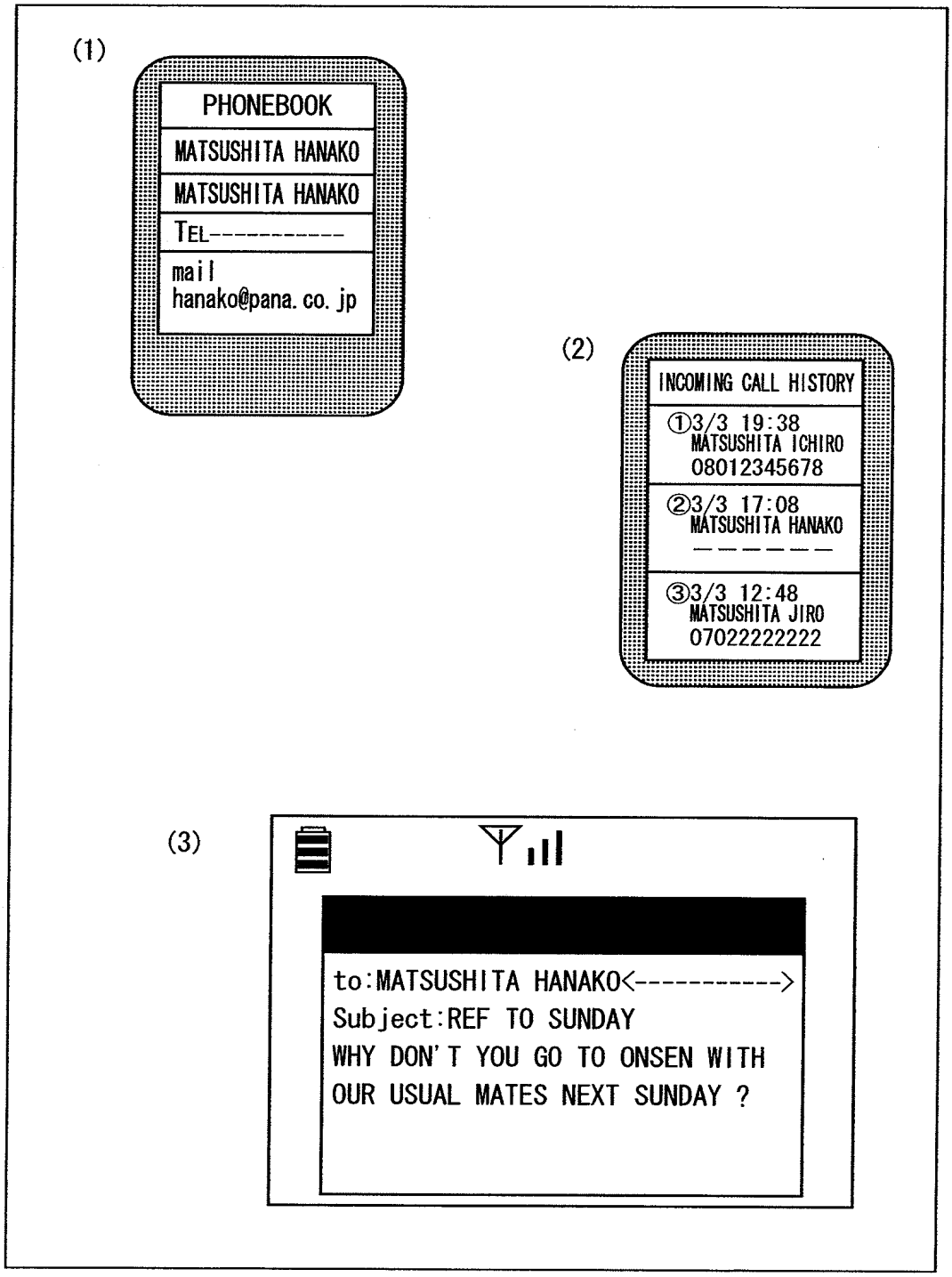

START
801
SELECT PERSON TO BE PHONED
802
EXTRACT PERSONAL INFORMATION FROM PERSONAL INFORMATION STORAGE SECTION
803
DISPLAY ALLOWABLE ?
No
Yes
804
PHONE NUMBER IS DISPLAYED ON OUTGOING CALL SCREEN
805
PHONE NUMBER IS NOT DISPLAYED ON OUTGOING CALL SCREEN
806
SEND A OUTGOING CALL THROUGH COMMUNICATION SECTION 1
END

【FIG. 9】

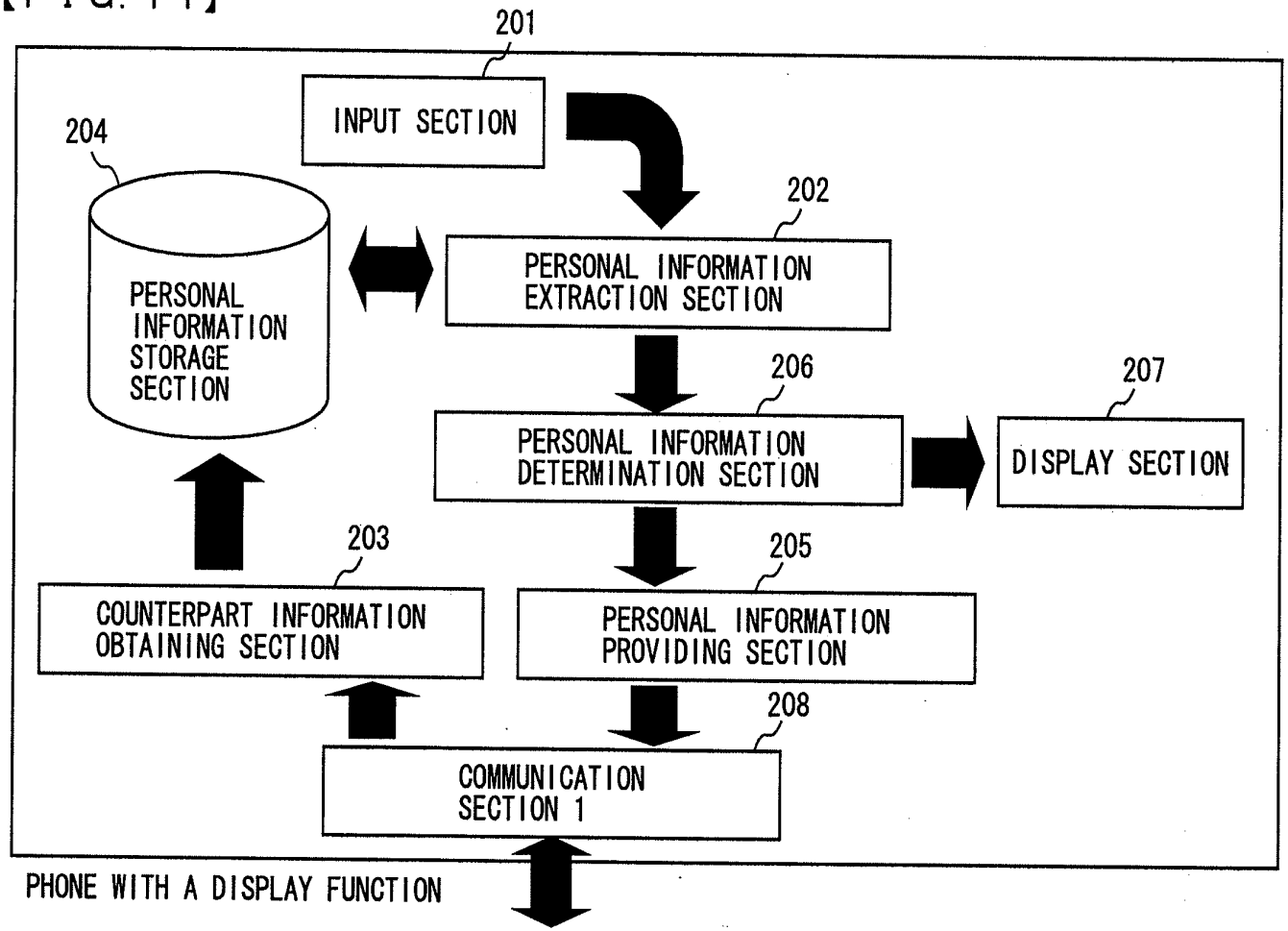
PERSONAL INFORMATION STORAGE TABLE CHART

LAST NAME	KANA	FIRST NAME	KANA	PHONE NUMBER	E-MAIL	PHONE NUMBER DISPLAY ALLOWABLE OR NOT
MATSUSHITA	MATSUSHITA	ICHIRO	ICHIRO	080-1234-5678	ichiro@pana.com	NO
MATSUSHITA	MATSUSHITA	JIRO	JIRO	070-2222-2222	jiro@pana.ne.jp	YES
MATSUSHITA	MATSUSHITA	SABURO	SABURO	090-8888-8888	saburo@pana.ne.jp	YES
MATSUSHITA	MATSUSHITA	HANAKO	HANAKO	090-3333-3333	hanako@pana.ne.jp	NO

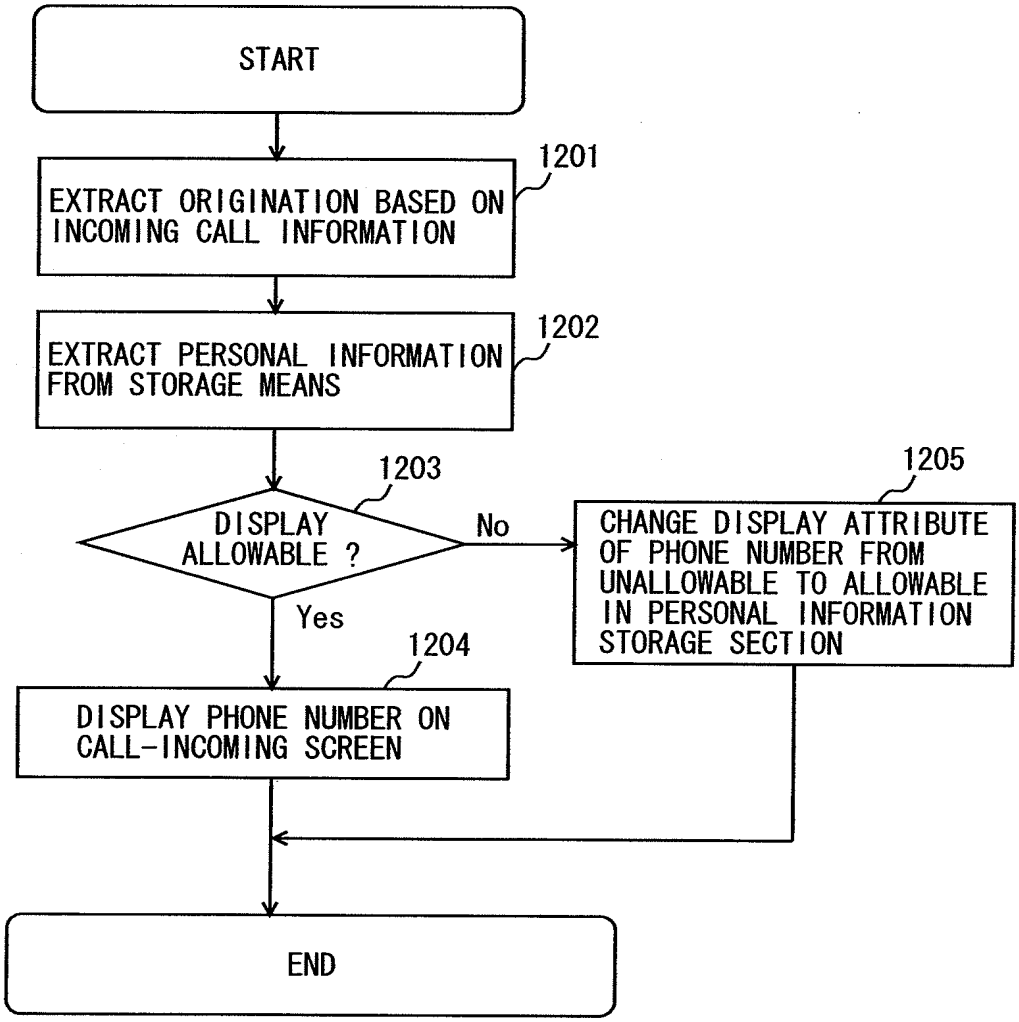
【ＦＩＧ．１０】


(1)
PHONEBOOK
MATSUSHITA HANAKO
MATSUSHITA HANAKO
TEL----------
mail
hanako@pana.co.jp
(2)
INCOMING CALL HISTORY
①3/3 19:38
MATSUSHITA ICHIRO
08012345678
②3/3 17:08
MATSUSHITA HANAKO
----
③3/3 12:48
MATSUSHITA JIRO
07022222222
(3)
to:MATSUSHITA HANAKO<---------->
Subject:REF TO SUNDAY
WHY DON'T YOU GO TO ONSEN WITH
OUR USUAL MATES NEXT SUNDAY ?

【ＦＩＧ．１１】


201
INPUT SECTION
204
PERSONAL INFORMATION STORAGE SECTION
202
PERSONAL INFORMATION EXTRACTION SECTION
206
PERSONAL INFORMATION DETERMINATION SECTION
207
DISPLAY SECTION
203
COUNTERPART INFORMATION OBTAINING SECTION
205
PERSONAL INFORMATION PROVIDING SECTION
208
COMMUNICATION SECTION 1
PHONE WITH A DISPLAY FUNCTION

【ＦＩＧ．１２】


START
EXTRACT ORIGINATION BASED ON INCOMING CALL INFORMATION
1201
EXTRACT PERSONAL INFORMATION FROM STORAGE MEANS
1202
1203
DISPLAY ALLOWABLE ?
No
Yes
1205
CHANGE DISPLAY ATTRIBUTE OF PHONE NUMBER FROM UNALLOWABLE TO ALLOWABLE IN PERSONAL INFORMATION STORAGE SECTION
1204
DISPLAY PHONE NUMBER ON CALL-INCOMING SCREEN
END